

## PARACERVICAL BLOCK AND OBSTETRIC ANALGESIA

N. R. AGRAWAL • F. TASNEEM • P. TIWARI

### SUMMARY

Pain during labour is one of the most severe pain experienced by human beings. Several methods of pain relief have been tried. In this study we evaluated the efficacy of two commonly used local anaesthetic agents as paracervical blocking drugs in obstetrical pain relief. One hundred laboring patients were taken in active phase of labour. They were randomly allocated into two groups of 50 patients each. One group received 20 ml of 1% lignocaine and the other 20 ml of 0.25% bupivacaine paracervical block (PCB). Pain relief was assessed with the help of a visual analogue scale.

Patients with lignocaine had a significantly ( $P < 0.001$ ) higher grade of pain relief with lesser failure rate (4%) as compared to bupivacaine (failure rate 26.0%). Mean duration of analgesia with bupivacaine PCB was nearly double (83.9 mins.) in comparison to lignocaine PCB (50.3 mins.). The main side effect with these agents was fetal bradycardia. Patients given lignocaine PCB showed 32% incidence of fetal bradycardia which was sustained for more than 5 mins., whereas with bupivacaine PCB it was 20% persisting for 3 mins. or less.

Thus, PCB is a simple and effective method of obstetrical analgesia. Lignocaine can be used if patient needing analgesia is in advanced labour and bupivacaine, if delivery is anticipated after a long period.

### INTRODUCTION

Pain of labour is one of the severest type of pain and it does not serve any beneficial purpose. From time immemorial obstetricians are trying various methods to alleviate the pain

associated with labour. We undertook this study to see the effect of paracervical block (PCB) on pain relief using two commonly used local anaesthetic agents.

### MATERIAL AND METHODS

Present series consisted of 100 labouring

patients both primi and multigravids. Patients with any medical or obstetrical complications were excluded from the study. These patients were randomly allocated in groups A and B. Group A received PCB with 20 ml of 1% lignocaine and group B received PCB with 20 ml of 0.25% bupivacaine in active phase of labour. Intensity and frequency of uterine contraction, grade of pain and fetal heart rate were noted before and after PCB and changes were noted. In each case complications, if any, occurring after the injection of local anaesthetic were noted along with the duration of labour and Apgar of newborn. Relief of labour pain was assessed by a visual analogue scale in which patients was asked to rate the pain relief. Depending upon the percentage of pain relief, the effect of PCB was divided into three grades: Grade I - less than 25% relief of pain, Grade II - 25 to 75% and Grade III - more than 75% relief.

#### OBSERVATION

Present study consisted of 100 labouring patients, which included 48 primi and 52 multigravidae. Lignocaine PCB was effective in relieving pain in 91.7% of primies compared to 79.2% with bupivacaine PCB. Similarly all

multics had pain relief with lignocaine whereas only 69.2% had analgesia with bupivacaine (Table I). When we compared duration of pain relief in the two groups, it was observed that bupivacaine (mean - 83.9 mins.) produced significantly longer ( $p < 0.0011$ ) duration of pain relief compared to lignocaine (mean - 50.31 mins.; Table II).

#### DISCUSSION

Wide range of methods for obstetrical analgesia have been tried from time to time. Drugs, an integral part of most form of analgesia, have been used in myriad ways to achieve pain relief during labour. PCB with local anaesthetic drugs is a simple and effective way of achieving pain relief during labour. We wished to find out the efficacy of two commonly used local anaesthetic agents lignocaine and bupivacaine. Failure rate with lignocaine was 4% (8.33% in primis and 0.0% in multics), whereas these figures were 26.0% (20.8% and 30.8% respectively) with bupivacaine. Thus, the former was effective in significantly greater proportion of patients compared to the latter drug. Bajpai and Padubidri (1987) found the failure rate of 2% with lignocaine and 30% with bupivacaine.

Table I

#### Degree of pain relief by paracervical block

Pain relief	Lignocaine Group A				Bupivacaine Group B			
	Primi		Multi		Primi		Multi	
	No.	%	No.	%	No.	%	No.	%
Grade I	2	8.3	6	23.1	5	20.8	6	23.1
Grade II	10	41.7	14	53.8	8	33.4	5	19.2
Grade III	10	41.7	6	23.1	6	25.0	7	26.9
Failure	2	8.3	-	-	5	20.8	8	30.8
Total	24	100.0	26	100.0	24	100.0	26	100.

Table II

Duration of pain relief by paracervical block

Duration (minutes)	Lignocaine		Bupivacaine	
	No.	%	No.	%
≤ 30	12	24	3*	6
31 - 60	36	72	14	28
61 - 90			7	14
91 - 120			12	24
> 120			1	2
Failure	2	4	13	26
Mean duration (mins)	50.3		83.92	

\* These patients went in second stage of labour within 30 mins. of PCB

Duration of the latent period was less than 5 mins. in both the groups. Chehap (1968) also noted that, if PCB was successful, the onset of pain relief was within 5 mins.

Lignocaine gave higher degree (grade II and III) of pain relief in most (80%) of the patients, while with bupivacaine only 52% had pain relief of grade II and III. The mean duration of pain relief was 50.31 mins. with lignocaine PCB compared to 83.92 mins with bupivacaine PCB. Hollmen et al (1970) also found duration of bupivacaine PCB induced analgesia of 90 minutes or more. In most studies, duration of analgesia with lignocaine PCB varied between 30 to 135 minutes (Brown et al, 1965; Seeds et al, 1962).

Thus, PCB is a simple and effective means of obstetrical analgesia. However, our results

do not conclusively prove which is a better choice - lignocaine or bupivacaine. Former providing better pain relief with lower failure rates while latter giving analgesia for longer duration. But it appears that lignocaine can be used in patients in advanced labour needing analgesia and bupivacaine, if delivery is anticipated after a long period.

REFERENCES

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Grade	Lignocaine No.	Lignocaine %	Bupivacaine No.	Bupivacaine %
Grade I	23	46	5	10
Grade II	36	72	14	28
Grade III	21	42	10	20
Failure	2	4	13	26
Total	82	100	32	100